

**REMARKS**

By this Amendment, claims 1, 6, 8-15, 17-21 and 24 are amended, and claims 26-29 are added. The drawing figures are replaced by the attached replacement drawing sheets (Figs. 1-17C). Accordingly, claims 1-29 are pending in this application. No new matter is added. Reconsideration of the application is respectfully requested.

**I. Information Disclosure Statement**

An Information Disclosure Statement with Form PTO-1449 was filed in the above-captioned patent application on April 27, 2005. Applicant has not yet received from the Examiner a copy of the Form PTO-1449 initialed to acknowledge the fact that the Examiner has considered the disclosed information. The Examiner is requested to initial and return to the undersigned a copy of the Form PTO-1449 with the next Office Action. For the convenience of the Examiner, a copy of that form is attached.

**II. Drawings**

The Office Action objects to the drawings because of informalities. Specifically, the Office Action asserts that Figs. 16A, 16B, 17A, 17B and 17C should be designated by a legend, such as prior art, because these figure illustrate only old features.

All Figs. 1-17C are replaced with the attached replacement drawing sheets. Figs. 1-17C are formal drawings, and Figs. 16A-17C include the label --Related Art--. Accordingly, withdrawal of the objection to the drawings is respectfully requested.

**III. Rejection Under 35 U.S.C. §112, Second Paragraph**

The Office Action rejects claims 1-25 under 35 U.S.C. §112, second paragraph, as indefinite.

The Office Action asserts that it is unclear if Applicant is claiming the elements recited in the preamble of the claims. Applicant submits that the preambles of claims 1 and

13 recite statements of use for the paper feed apparatus of claims 1-12 and the paper separation mechanism of claims 13-22.

MPEP 2111.02 states:

The claim preamble must be read in the context of the entire claim. The determination of whether preamble recitations are structural limitations or mere statements of purpose or use "can be resolved only on review of the entirety of the [record] to gain an understanding of what the inventors actually invented and intended to encompass by the claim."

If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction.

As clearly recited in the preamble of claims 1 and 13, the paper feed apparatus of claim 1 and the paper separation mechanism of claim 13 are both "for use" with or in the elements set forth in the remaining preamble recitations. Claim 1 is amended to explicitly recite the "for use" language. Because the elements recited in the preamble are only used as reference points, the preamble recitations are not structural limitations with respect to claims 1 and 13, and variously depending claims 2-12 and 14-25.

The Office Action also asserts that the claims lack proper antecedent basis. Claims 1 and 13 are amended to provide antecedence for claim terminology. Also, claims 6, 8-12, 14, 15, 17, 18, 20, 21 and 24 are only amended to provide language based on the antecedent, and thus are not narrowed by such amendments.

Further, the Office Action asserts that there is insufficient structure recited in claim 19 to understand how the plates are related to arm portions and protrusions. Claim 19 is amended only to clarify the features of the relationship between the plates and the arm portions and protrusions, and thus is not narrowed by such amendments.

**IV. Rejection Under 35 U.S.C. §102(b)****A. Oleska**

The Office Action rejects claims 1, 3, 5-6, 9, 11, 13, 17, 21 and 23 under 35 U.S.C. §102(b) over U.S. patent No. 5,895,040 to Oleska et al. ("Oleska"). Applicant respectfully traverses the rejection.

Oleska does not disclose, teach or suggest a paper feed apparatus and a paper separation mechanism including "a plurality of resilient arm portions that hold the respective projections at respective positions" and in which "the arm portions are aligned in at least one row along a conveying direction of the paper," as recited in independent claims 1 and 13.

The Office Action asserts that Oleska discloses a paper feed apparatus and a paper separation mechanism 10 including a plurality of projections 36 and a plurality of resilient arm portions 37 for holding the projections 36 at respective positions so as to project from the surface of an inclined surface. Notwithstanding these assertions, with which Applicant disagrees, also Oleska does not disclose arm portions aligned in at least one row along a conveying direction of paper.

Oleska teaches, in Fig. 1, a printer tray 10 for holding a stack 14 of sheets 12, and a sheet feed device including sheet feed rollers 18. The printer tray 10 includes an inclined surface 17 that helps guides a top sheet 41 in a sheet feed direction (Figs. 1-3). In another embodiment shown in Figs. 11 and 12, the printer tray 10 includes a metal inclined surface 60 that corresponds to the inclined surface 17 (col. 7, lines 30-32).

As shown in Fig. 11, the inclined surface 60 includes a spacer 61 provided to attach a metal plate 62 formed with slots 64. This structure allows inserts 35, which include projections 36 and side walls 37, to be positioned between the inclined surface 60 and the metal plate 62 (Fig. 12). The slots 64 enable the projections 36 of the inserts 35 to extend through the slots (Figs. 11 and 12, and col. 7, lines 38-46).

As shown in Figs. 11 and 12, each insert 35 includes only one projection 36 supported by one continuous u-shaped support having two substantially parallel side walls 37.

Therefore, each projection 36 is not supported by a plurality of u-shaped supports. Further, the continuous u-shaped supports that include side walls 37 are aligned in a direction orthogonal to the sheet feed direction, e.g., bottom to top in Fig. 11 (Fig. 12). Because the continuous u-shaped supports that include the side walls 37 are not aligned in at least one row along a conveying direction of the sheets 12, 41, Oleska does not disclose, teach or suggest the paper feed apparatus and the paper separation mechanism of claims 1 and 13.

Therefore, claims 1 and 13 are patentable over Oleska. Claims 3, 5-6, 9, 11, 17, 21 and 23 variously depend from claims 1 and 13, and thus also are patentable over Oleska for at least the reasons set forth above, as well as for the additional features they recite.

Accordingly, reconsideration and withdrawal of the rejection based on Oleska is respectfully requested.

**B. Morikawa**

The Office Action claims 1, 2, 5, 8, 11-13, 18 and 22-24 under 35 U.S.C. §102(b) over U.S. patent No. 5,573,338 to Morikawa et al. ("Morikawa"). Applicant respectfully traverses the rejection.

Morikawa does not disclose, teach or suggest a paper feed apparatus and a paper separation mechanism including "a plurality of resilient arm portions that hold the respective projections at respective positions" and in which "the arm portions are aligned in at least one row along a conveying direction of the paper," as recited in independent claims 1 and 13.

The Office Action asserts that Morikawa discloses a paper feed apparatus and a paper separation mechanism 10 including a plurality of projections located on a plurality of resilient arm portions 58 for holding the projections at respective positions so as to project from the surface of an obtuse inclined surface. Notwithstanding these assertions, Morikawa does not

disclose an inclined surface that makes an obtuse angle relative to a paper stored in a paper storage. Further, Morikawa does not disclose arm portions aligned in at least one row along a conveying direction of the paper.

Morikawa teaches, in Fig. 2, a document input device 10 including a paper feeding unit 14 that includes a pick roller 20 and a paper separator unit 22. The separator unit 22 includes a spring unit 54 that includes a first pair of pick springs 58 and a second pick spring 60a (Figs. 6, 7 and 9). As shown in Fig. 6, bottom portions of the pick springs 58 and a u-shaped bent portion 60a of second pick spring 60 are positioned to contact the pick roller 20 at positions P, Q (col. 6, lines 61 - col. 7, line 25).

Morikawa, in Fig. 13, teaches another embodiment of a spring unit 54 that includes a first pair of pick springs 58 each having bottom bent portions, and a second pick spring 60 having no bottom bent portion (col. 9, lines 39-50). Morikawa also teaches that the separator unit 22 only includes one resilient spring unit 54 that holds the first pick springs 58 having bent portions and that the first pair of pick springs 58 of the resilient spring unit 54 are aligned in a direction orthogonal to the sheet feed direction, e.g., right to left in Fig. 7. Therefore, Morikawa does not teach or suggest a plurality of resilient spring units 54, which includes the first pair of pick springs 58, being aligned in a sheet feed direction.

Morikawa also teaches inclined surfaces forming acute angles between the paper separation unit 22 and paper. Therefore, the inclined surfaces of the paper separator unit 22 do not make an obtuse angle relative to sheets 90 stored in a paper storage (not shown) (Fig. 11).

Because the resilient spring unit 54, which includes the first pair of pick springs 58, are not aligned along a conveying direction of the sheets 90, Morikawa does not disclose, teach or suggest the paper feed apparatus and the paper separation mechanism of claims 1 and 13. Therefore, claims 1 and 13 are patentable over Morikawa.

Claims 2, 5, 8, 11-12, 18 and 22-24 variously depend from claims 1 and 13, and thus also are patentable over Morikawa for at least the reasons set forth above, as well as for the additional features they recite. Accordingly, reconsideration and withdrawal of the rejection based on Morikawa is respectfully requested.

**V. Rejection Under 35 U.S.C. §103(a)**

The Office Action rejects claim 20 under 35 U.S.C. §103(a) over Oleska in view of Japanese Patent Application Publication No. 5-24694 to Hiroyuki et al. ("Hiroyuki"), and rejects claims 1, 3-7, 9, 10, 13-16, 23 and 25 under 35 U.S.C. §103(a) over Oleska in view of U.S. Patent No. 6,536,757 to Chang. Applicant respectfully traverses the rejections.

As discussed above, Oleska does not disclose, teach or suggest a paper feed apparatus and a paper separation mechanism including "a plurality of resilient arm portions that hold the respective projections at respective positions" and in which "the arm portions are aligned in at least one row along a conveying direction of the paper," as recited in independent claims 1 and 13.

The Office Action asserts that Hiroyuki and Chang remedy the deficiencies of Oleska. Notwithstanding these assertions, Hiroyuki and Chang do not remedy the deficiencies of Oleska discussed above.

Hiroyuki teaches, in Fig. 1, a separating piece 4A including a rubber plate 4a that works with a feeding roller 3 to feed a document 1. In other embodiments of a separating piece 4B, protrusions, 10, 10A, 10B are provided on the rubber plate 4a. However, the rubber plate 4a does not include arm portions.

Chang teaches, in Fig. 1, an automatic sheet feeding section 200 including a friction dam 130 that includes dam grooves 132 in which each dam groove 132 may receive a rubber friction bracket 152 having teeth 153 supported by arms. However, the arms are aligned in a

direction orthogonal to a sheet feed direction, e.g., slants downward from right to left in

Fig. 1.

Because Hiroyuki and Change do not teach or suggest arm portions aligned in at least one row along a conveying direction of a paper, Hiroyuki and Change do not remedy the deficiencies of Oleska. Therefore, Oleska, Hiroyuki and Chang do not, alone or in combination, teach or suggest the paper feed apparatus and the paper separation mechanism of claims 1 and 13.

Claims 3-7, 9, 10, 14-16, 20, 23 and 25 variously depend from claims 1 and 13, and thus would not have been rendered obvious by Oleska, Hiroyuki and Change for at least the reasons set forth above, as well as for the additional features they recite. Accordingly, reconsideration and withdrawal of the rejections is respectfully requested.

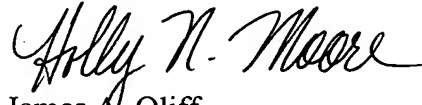
#### **VI. Conclusion**

New claims 26-29 variously depend from claims 1 and 13, and thus are patentable over the applied art for at least the reasons set forth above, as well as for the additional features they recite. Support for these features may be found at least in Fig. 10 and paragraph [0076] of the specification.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-29 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:

Petition for Extension of Time  
Replacement Drawing Sheets (Figs. 1-17C)  
Amendment Transmittal

Date: August 26, 2005

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